Undersea Warfare Priorities

Rear Admiral Charles Richard
Director of Undersea Warfare

Global Maritime Presence Ensures U.S. Prosperity
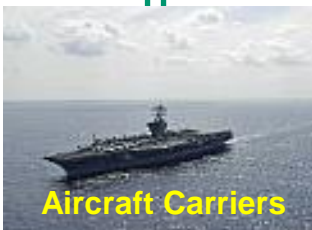
Surface Ships

Ships   **Aircraft Carriers**

- **Large volume** maritime warfighting capacity
- **Overt**; ideal for "signaling"
- **Inspection and boarding operations**

Naval Air Forces

Aircraft

- **High speed** reaction
- Ability to **reach far inland**
- **Repeat missions** ("reload") with a **"Man in the loop"**
- **Highly flexible** operations

Undersea Forces

Attack and Guided Missile Submarines   **Ballistic Missile Submarines**

- Flexible and **survivable nuclear deterrent**
- Capable of **undetected operations** (intel)
- **Can penetrate** deep into enemy waters
- Capable of long-endurance **independent offensive operations** far forward

Since WWII, the U.S. Navy has used its global dominance to stabilize the world's maritime commons, permitting the greatest expansion of trade, prosperity and living standards in history

US Submarine Force

- **~10% of Navy Personnel**
- **~25% of Warships**
- **~13% of Navy Budget**
- **~50% of accountable nuclear warheads**
  - **~70% under New START**
- **100% of survivable warheads**
- **Over 4000 SSBN patrols completed (over 1100 Trident patrols)**
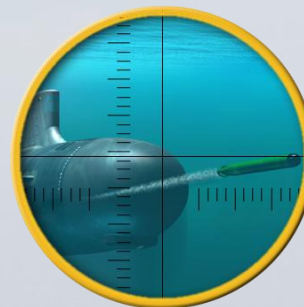
Submarine Force Mission Areas

Strike

Strategic Deterrence

ASW

SOF

ISR

ASUW

Counter Drug Ops

Mine Warfare

Undersea Warfare Across the Spectrum of Hostilities

PEACE | **BATTLESPACE PREPARATION** | **PRE-HOSTILITIES** | **CONFLICT ESCALATION** | **WAR**

Precision Strike--

Anti-Submarine Warfare--

Anti-Ship Warfare--------------------

Offensive Mining--------------------------------

Special Operations Forces Support-----------------------

Mine Reconnaissance---

Information Operations--

Intelligence Preparation of Battlespace (IPB)---

Indication and Warning (I&W)--

Intelligence/Surveillance/Reconnaissance--

Nuclear Strategic Deterrence --

Submarine Force Top Priorities

- Provide a survivable and effective sea-based strategic deterrent
  - OHIO Replacement is the Navy's #1 priority: Top-line relief required
  - OHIO: Restore and maintain acceptable margin
  - New START: ~50% to ~70% of accountable nuclear warheads

- Deliver force structure for global presence
  - Maintain at least 2/yr VIRGINIA-Class SSNs to reduce the "shortfall"
  - Successful execution of 60 month SSN construction span

- Enhancing our asymmetric advantage
  - VIRGINIA Payload Module on all Block V-VII SSNs
  - Acoustic Superiority Program
  - Increase Heavyweight Torpedo Inventory: Mk-48 ADCAP Restart
  - Increase Heavyweight Torpedo Capabilities
  - Expand missile portfolio
  - Universal Launch and Recovery Module
  - Small and Large Displacement Unmanned Undersea Vehicles
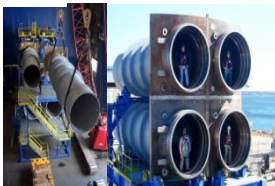
Maintaining undersea dominance
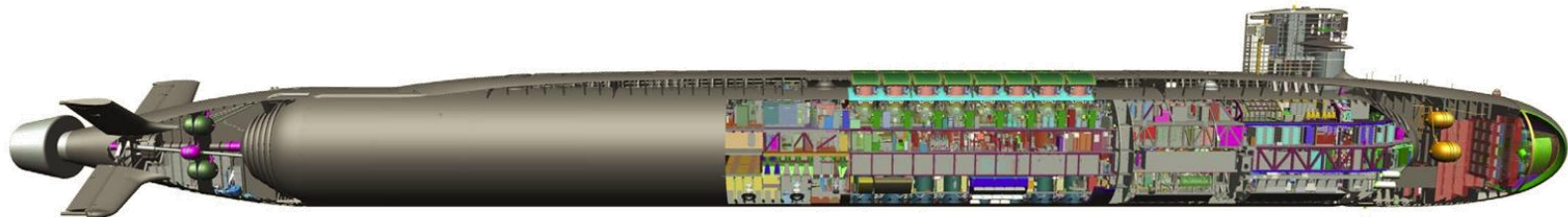
Modular Construction

SSBN Design

Integrated Tube and Hull Construction
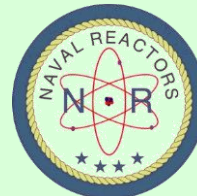
Propulsor

Electric Drive

Coordinated X-Stern

Survivability, Acoustic Superiority

Updateable Tactical Systems (SWFTS)

42 Year Service Life

Life of Ship Reactor Core

Improved Availability

Strategic Weapons System and D5-LE
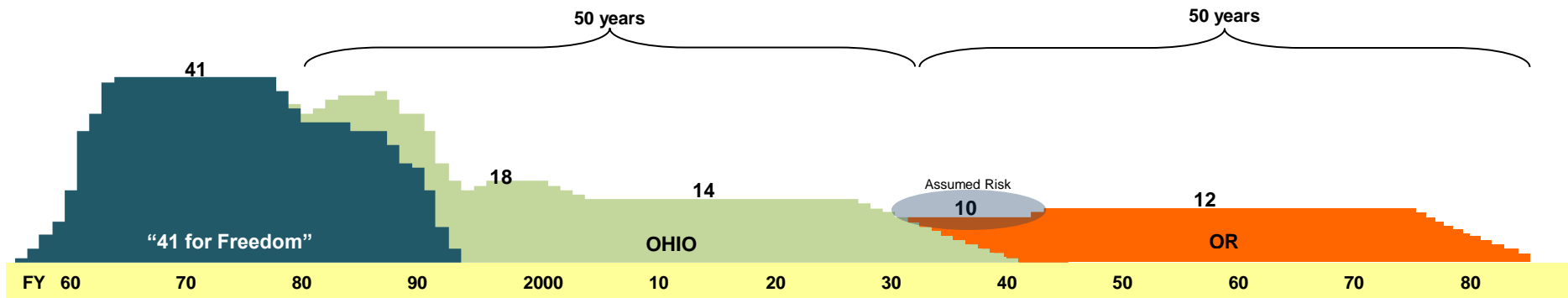
U.S. – UK Common Missile Compartment

OHIO / VA Reuse
New Development

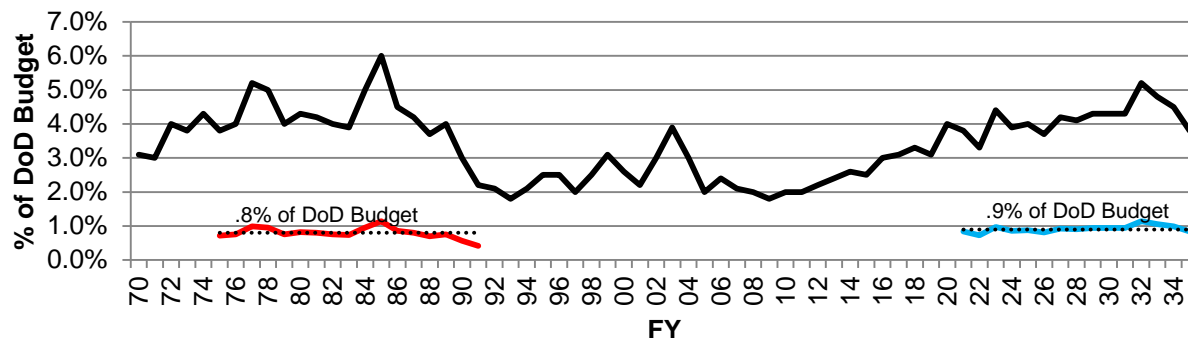**All areas must remain aligned and properly resourced for the program to succeed**

SSBN Procurement
An Infrequent but Critical Responsibility

50 years | 50 years

41 — "41 for Freedom"
18
14 — OHIO
Assumed Risk — 10
12 — OR

FY 60 70 80 90 2000 10 20 30 40 50 60 70 80

OHIO/OR SCN as a % of DoD Total Budget

.8% of DoD Budget
.9% of DoD Budget

Legend:
- SCN % of DoD Budget
- OHIO Shipbuilding % of DoD Budget
- OR Shipbuilding % of DoD Budget**

SBSD procurement <1% of total DoD Budget

Average Annual Ship Procurement Funding* (FY15$)

OHIO-class (1974-1991)	$18.3B
"41 for Freedom" (1958-1964)	$16.5B
All other Post-Korean War years	$11.8B

~$7B   ~$5B
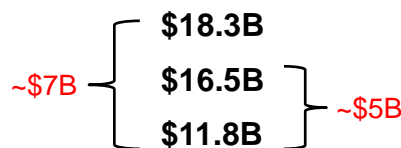
*PBIS data (TY$) converted to FY15$

Increasing Ship Procurement Funding for SSBN Recapitalization is Historically Consistent

7

VIRGINIA Class
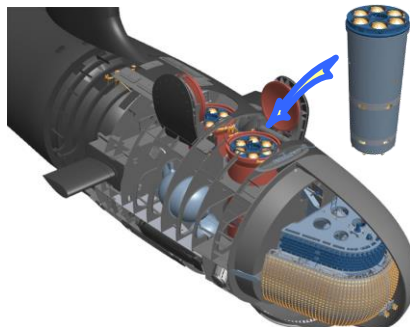## *Pressing the Advantage*

Block I & II

- Reduction of construction schedule
- BLK II delivered ahead of schedule

Block III

- Design for Affordability
- Large Aperture Bow Array
- Virginia Payload Tube

Block IV

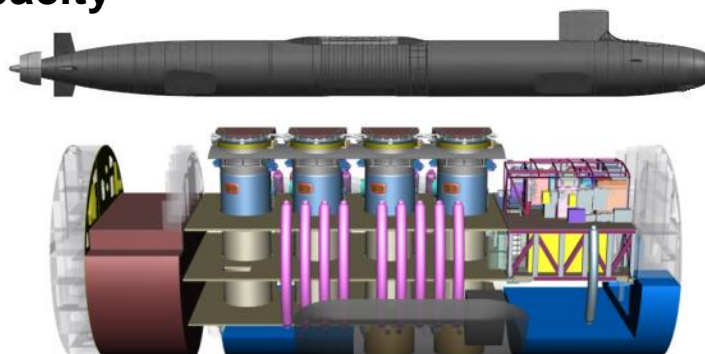- Reduced Total Ownership Cost
- Increased Availability per submarine

Block V
Virginia Payload Module (VPM) and Improved Acoustic Superiority

VPM

- **Mitigates lost strike capacity**
- **SOF host capability**
- **Host future payloads**

Acoustic Superiority

- **Improved sensors**
- **Advanced hull coating**
- **Improved quieting**

FY16 Ship Building Plan

- Low point is 41 SSNs (FY29)
- Gap is 51 SSN-Yrs

SSNs appropriated before FY25 reduce "trough" depth / width

SSNs appropriated in / after FY25 reduce "trough" width

VPM 1/ year on BLK V-VII (15 total)
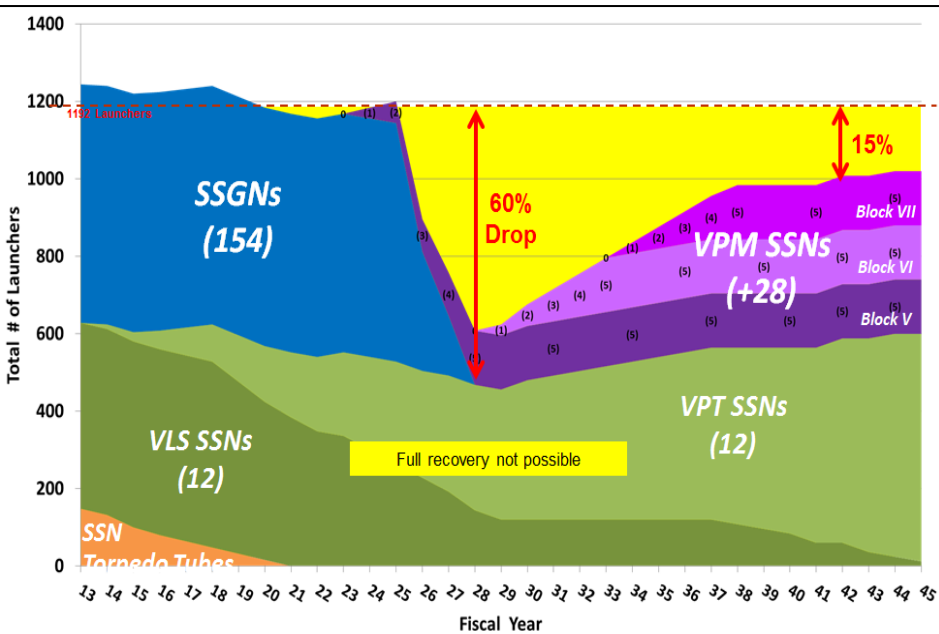
VPM on all BLK V-VII (20 total)
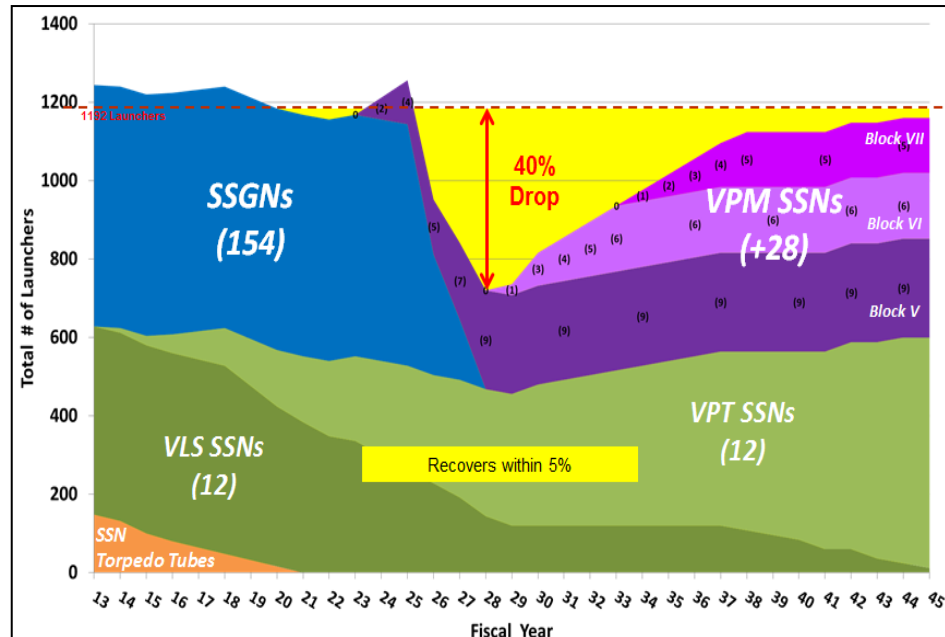
Future undersea payloads hosted by VPM

- TLAM and follow-on land strike missile
- Unmanned Undersea Vehicles
- Manned Undersea Vehicle (SDV and SWCS)
- Expanded Missile Portfolio

> 3x the Firepower, < 15% increase in cost per SSN

Owning the Undersea Domain

We deliver value *every single day*

- Sea-Based Strategic Deterrence
  - ✓ New START: ~50% to ~70% of accountable nuclear warheads
  - ✓ Only survivable leg of nuclear TRIAD
  - ✓ Preventing major power war for 7 decades
- Far forward, persistent, covert presence
  - ✓ Non-provocative influence to deter and de-escalate potential conflicts
  - ✓ Undersea and cross-domain Intelligence, Surveillance, and Reconnaissance
  - ✓ Real-time warning to U.S. leadership
  - ✓ Presence permits rapid transition from peacetime

We deliver value *where it matters, when it matters*

- The key that unlocks the adversary's Anti-Access / Area Denial (A2AD) door
- Operating inside adversary defenses
- Access that "sets the table" for Joint Forces
- Stealth and surprise at the time and place of our choosing

Expanding the decision space for National Leadership

Questions?

For any additional questions, please contact CDR Martin Sprague, Undersea Warfare Division (OPNAV N97) at: 703-614-9375